

by human skin, tissue or other dielectric material. By way of example, such a configuration may be used in conjunction with a heart monitoring/control system where stability and consistency of wireless data transmission are of fundamental concern.

[0883] In various other embodiments, a SRR antenna **2508** may be integrated into the embodiments of the infusion pump assembly. configuration of medical components in which one or more electrical sensors positioned on, or attached to, the human body wirelessly communicate to a remote transceiving unit. By way of example, a plurality of electrodes positioned on the body may be coupled to a wireless unit employing a SRR antenna **2508** for wireless transmission to a remotely located electrocardiogram machine. By way of further example, a wireless temperature sensor in contact with human skin may employ SRR antenna **2508** for wireless communication to a controller unit for temperature regulation of the room in which the sensor resides.

[0884] A number of embodiments have been described. Nevertheless, it will be understood that various modifications may be made. Accordingly, other embodiments are within the scope of the following claims.

[0885] A number of implementations have been described. Nevertheless, it will be understood that various modifications may be made. Accordingly, other implementations are within the scope of the following claims.

What is claimed is:

1. A wearable infusion pump assembly comprising:
 - a reusable housing assembly;
 - a disposable housing assembly including a reservoir for receiving an infusible fluid;
 - a releasable engagement assembly configured to allow the reusable housing assembly to releasably engage the disposable housing assembly; and
 - a switch assembly configured to effectuate a functionality of the infusion pump assembly.
2. The wearable infusion pump assembly of claim 1 wherein the functionality includes a bolus infusion functionality, the wearable infusion pump assembly further comprising:
 - at least one processor; and
 - a computer readable medium coupled to the at least one processor, the computer readable medium including a plurality of instructions stored thereon which, when executed by the at least one processor, cause the at least one processor to perform operations comprising:
 - receiving an initiation signal from the switch assembly indicative of a bolus infusion event;
 - receiving a dose signal from the switch assembly indicative of at least a portion of a bolus quantity of the infusible fluid;
 - rendering an audible quantity signal in response to the dose signal; and
 - receiving an approval signal from the switch assembly indicative of a concurrence with the audible quantity signal.
3. The wearable infusion pump assembly of claim 2 wherein the computer readable medium further includes instructions for:
 - administering the bolus quantity of the infusible fluid.

4. The wearable infusion pump assembly of claim 1 wherein the functionality includes a separation detection functionality, the wearable infusion pump assembly further comprising:

- at least one processor; and

- a computer readable medium coupled to the at least one processor, the computer readable medium including a plurality of instructions stored thereon which, when executed by the at least one processor, cause the at least one processor to perform operations comprising:

- transmitting a ping signal to a remote control assembly;
- monitoring for receipt of a reply signal from the remote control assembly in response to the ping signal; and
- if the reply signal is not received within a defined period of time, rendering an audible separation alarm.

5. The wearable infusion pump assembly of claim 4 wherein the computer readable medium further includes instructions for:

- receiving an alarm override signal from the switch assembly indicative of a desire to silence the separation alarm; and
- silencing the separation alarm.

6. The wearable infusion pump assembly of claim 1 wherein the functionality includes a pairing functionality, the wearable infusion pump assembly further comprising:

- at least one processor; and

- a computer readable medium coupled to the at least one processor, the computer readable medium including a plurality of instructions stored thereon which, when executed by the at least one processor, cause the at least one processor to perform operations comprising:

- receiving a pairing initiation signal from the switch assembly indicative of a pairing event;

- monitoring for receipt of a pairing request from a remote control assembly; and

- if the pairing request is received, providing an acknowledgment message to the remote control assembly, wherein the acknowledgement message uniquely identifies the wearable infusion pump assembly.

7. The wearable infusion pump assembly of claim 6 wherein the acknowledgement message includes a serial number of the wearable infusion pump assembly.

8. The wearable infusion pump assembly of claim 1 further comprising:

- an external infusion set configured to deliver the infusible fluid to a user.

9. The wearable infusion pump assembly of claim 1 wherein the reusable housing assembly includes:

- a mechanical control assembly including a pump assembly and at least one valve assembly.

10. The wearable infusion pump assembly of claim 9 wherein the mechanical control assembly includes at least one shape-memory actuator.

- 11. A wearable infusion pump assembly comprising:

- a reusable housing assembly including a mechanical control assembly, the mechanical control assembly including a pump assembly, at least one shape-memory actuator configured to actuate the pump assembly, and at least one valve assembly;

- a disposable housing assembly including a reservoir for receiving an infusible fluid;